

CLAIMS:

What is claimed is:

1. A circuit, comprising:
 an amplifier having an output for providing an amplified modulated signal having a
 5 carrier frequency; and
 a D.C. bias circuit comprising:
 a decoupling capacitor having a first terminal coupled to the output of the
 amplifier and to a voltage supply terminal, the decoupling capacitor
 providing an open circuit at the carrier frequency; and
 10 a low frequency decoupling capacitor coupled to the output of the amplifier at
 a location between the output of the amplifier and the first terminal of the
 decoupling capacitor.
2. The circuit of claim 1, wherein the low frequency decoupling capacitor has a self
 resonant frequency lower than that of the decoupling capacitor.
- 15 3. The circuit of claim 1, wherein the low frequency decoupling capacitor has a self
 resonant frequency that is no higher than one tenth of that of the decoupling capacitor.
4. The circuit of claim 1, wherein the low frequency decoupling capacitor is a tantalum
 capacitor.
5. The circuit of claim 1, wherein the D.C. bias circuit further comprises:
 20 a transmission line having a first end coupled to the output of the amplifier and a
 second end coupled to the first terminal of the decoupling capacitor;
 wherein the carrier frequency has a wavelength;
 wherein a distance between the first end and the second end is equal to N times the
 wavelength divided by four, where N is an odd integer;
 25 wherein the low frequency decoupling capacitor is coupled to the transmission line
 between the output of the amplifier and the second end.
6. The circuit of claim 5 wherein the transmission line is implemented as microstrip.

7. The circuit of claim 1, further comprising:
a first transmission line coupled between the decoupling capacitor to the output of the amplifier; and
an output signal path having an input coupled to the output of the amplifier and an
5 output terminal for providing an output signal of the amplifier circuit, wherein the output signal path comprises at least an initial transmission line that is connected to the output of the amplifier and wherein the first transmission line is coupled to the initial transmission line.
8. The circuit of claim 7, wherein:
10 the carrier frequency has a wavelength;
the first transmission line has a first end connected to the initial transmission line and a second end coupled to the decoupling capacitor, wherein the first transmission line has a length from the first end to the second end equal to N times the wavelength divided by four, where N is an odd integer.
- 15 9. The circuit of claim 1, wherein the low frequency decoupling capacitor is a tantalum capacitor and the decoupling capacitor is a ceramic capacitor.
10. The circuit of claim 1, wherein the decoupling capacitor has a self resonant frequency equal to the carrier frequency.
11. A transmitter including the circuit of claim 1 and further comprising:
20 a mixer having an output coupled to an input terminal of the circuit.
12. The circuit of claim 1 wherein the carrier frequency is in a range of 100 MHz to 4 GHz.

13. A circuit, comprising:
an amplifier having an output for providing an amplified modulated signal having a carrier frequency, the carrier frequency having a wavelength;
a D.C. bias circuit comprising:
5 a transmission line having a first end coupled to the output of the amplifier and a second end, wherein a distance between the first end and the second end equals N times the wavelength divided by four, where N is an odd integer;
a decoupling capacitor coupled to the second end of the transmission line; and
10 a low frequency decoupling capacitor coupled to the output of the amplifier at a location between the output of the amplifier and the decoupling capacitor.
14. The circuit of claim 13, wherein the low frequency decoupling capacitor has a self resonant frequency lower than that of the decoupling capacitor.
- 15 15. The circuit of claim 13, wherein the low frequency decoupling capacitor has a self resonant frequency that is no higher than one tenth of that of the decoupling capacitor.
16. The circuit of claim 13, wherein the low frequency decoupling capacitor is a tantalum capacitor.
17. The circuit of claim 13, wherein the decoupling capacitor is a ceramic capacitor.
- 20 18. The circuit of claim 13, further comprising an output signal path having an input coupled to the output of the amplifier and an output terminal for providing an output signal of the circuit, wherein the output signal path comprises at least an initial transmission line that is connected to the output of the amplifier and wherein the first end of the transmission line is connected to the initial transmission line.

19. The circuit of claim 13, wherein the D.C. bias circuit further comprises:
a second transmission line coupled between the second end of the transmission line
and a voltage supply terminal; and
a second low frequency decoupling capacitor coupled to the second transmission line.
- 5 20. The circuit of claim 13, wherein the low frequency decoupling capacitor is a tantalum capacitor and the decoupling capacitor is a ceramic capacitor.
21. The circuit of claim 13 wherein the low frequency decoupling capacitor includes a terminal connected to the transmission line.
22. The circuit of claim 13 wherein the low frequency decoupling capacitor includes a
10 terminal connected to the transmission line.
23. The circuit of claim 13 wherein the carrier frequency is in a range of 100 MHz to 4 GHz.
24. A circuit, comprising:
an input matching circuit having an input for receiving a modulated signal and an
15 output, wherein the modulated signal has a carrier frequency, the carrier frequency has a wavelength;
an amplifier having an input coupled to the output of the input matching circuit and an output; and
an output matching circuit having an input coupled to the output of the amplifier and
20 an output, wherein the output matching circuit comprises an output signal path and a D.C. bias feed path, wherein the D.C. bias feed path comprises:
a transmission line having a first end coupled to the output of the amplifier and
a second end, wherein a distance between the first end and the second end equals N times the wavelength divided by four, where N is an odd
25 integer;
a decoupling capacitor having a first terminal coupled to the second end of the transmission line; and

a low frequency decoupling capacitor coupled to the output of the amplifier at a location between the output of the amplifier and the first terminal of the decoupling capacitor.

25. The circuit of claim 24, wherein the low frequency decoupling capacitor is a tantalum
5 capacitor.

26. The circuit of claim 24, wherein the decoupling capacitor is a ceramic capacitor.

27. The circuit of claim 24, wherein the low frequency decoupling capacitor is characterized as having a self resonant frequency that is no more than one tenth a frequency of the carrier frequency.

10 28. The circuit of claim 24 wherein:
the output signal path comprises an initial transmission line that is connected to the
output of the amplifier; and
the first end of the transmission line is connected to the initial transmission line.

29. The circuit of claim 24 wherein the carrier frequency is in a range of 100 MHz to 4
15 GHz.